Careers in clinical academic medicine: new opportunities or old threats?

Christopher D Buckley

Introduction

There has been much written and debated in the last decade concerning the future of academic medicine.[1,2] Despite the excitement of combining a career in research and teaching with clinical practice, academic clinical medicine has not often been viewed by many of our brightest medical students as 'the best job in the world'. Many medical schools have found it difficult to identify suitable candidates to fill senior clinical academic posts. More worrying still, the sustained lack of recruitment in some disciplines has meant that enthusiastic role models are hard to identify. Furthermore a growing number of universities, under financial pressure and in deference to the Research Assessment Exercise, have re-badged some of their academic clinical posts to appoint high-flying, non-clinical scientists. At the May 2006 conference on careers in academic medicine there was encouraging evidence that medical students and junior doctors have maintained their interest in research. Real progress has recently been made with structural changes in the funding and training of clinical academics in the NHS. These practical solutions to many of the disincentives have created a justified sense of optimism that academic medicine is now more highly valued, and worth pursuing.

What has changed?

The Calman reforms of the mid-1990s began a process that attempted to simplify and improve higher specialist training; with the abolition of the senior registrar grade and the introduction of specialist registrars (SpR). The reforming agenda of Modernising Medical Careers (MMC) has extended these changes into basic medical training.[3] Stand alone six-month senior house officer (SHO) posts, for example, have been replaced by more fully integrated four-month rotations. However, it remains uncertain how MMC will integrate with the more established SpR scheme. There are a number of tensions in the system. Implicit in the MMC agenda is a move towards a system of assessments based on objective assessment of skills and competency-based training. During periods of transition there is inevitably anxiety. How will the old SHO posts be incorporated with new foundation posts into the specialist training grades? How long will trainees be allowed to stay 'in transit' between foundation year and specialist training posts. How will graduate-entry students (about 10% of students) be incorporated into the new system? What impact will these changes have on what is already a precariously balanced academic medicine programme? While pessimists might dwell on these uncertainties, optimists will see MMC as a facilitating tool to help break down the considerable logistical barriers to a career in academic medicine.

A bright new future

Mark Walport outlined the exciting new changes being implemented as a result of the 'Walport Report';[4] a joint sub-committee of the UK Clinical Research Collaboration (UKCRC) and MMC.

Christopher D Buckley DPhil FRCP, Arthritis Research Campaign (arc) Professor of Rheumatology, Medical Research Council Centre for Immune Regulation, University of Birmingham

This conference was held at the Royal College of Physicians on 9 May 2006

Clin Med 2007;7:79–81

Conference programme

- **Welcome and opening remarks** Chair: Professor Timothy Evans, Academic Registrar, Royal College of Physicians
- **Modernising academic medical careers: a bright future ahead** Dr Mark Walport, Chair, Academic Sub-Committee of Modernising Medical Careers and the UK Clinical Research Collaboration
- **Clinical Research Fellowship schemes: a broad overview of what is on offer** Professor Patrick Vallance, Registrar, Academy of Medical Sciences
- **Managing the balancing act: training and competency versus research** Professor Stephen Field, Postgraduate Dean, West Midlands
- **Panel discussion: planning a career in Academic Medicine** Chair: Professor Paul Stewart, University of Birmingham (Conference organiser)
- **Workshops with research staff from:** Medical Research Council, The Wellcome Trust, British Heart Foundation, Cancer Research UK
- **Personal experiences** Professor Chris Buckley, Medical Research Council Senior Clinical Fellow, University of Birmingham, Professor David Rubinsztein, The Wellcome Trust Senior Clinical Fellow, Addenbrooke's Hospital, Cambridge, Professor Brian Walker, British Heart Foundation Senior Research Fellow, University of Edinburgh
- **Training fellowships – how to succeed** Professor Bryan Williams, University of Leicester

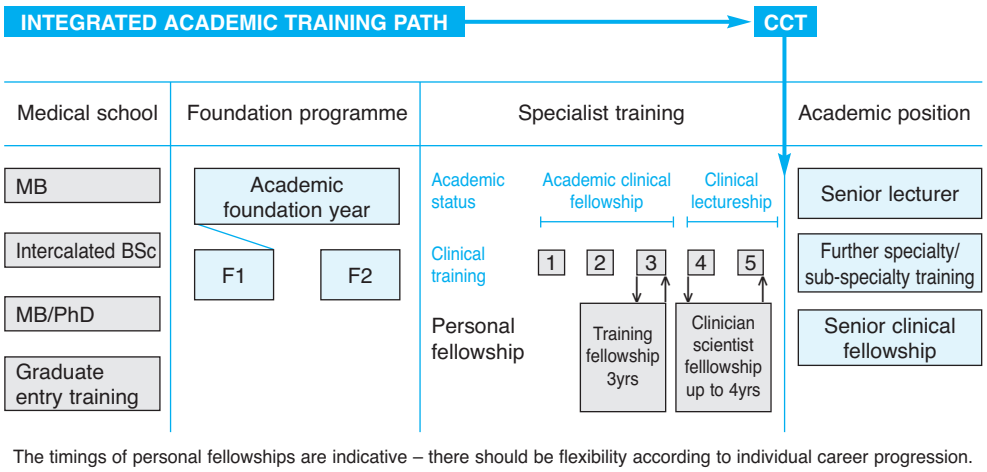

Fig 1. Integrated academic training pathway for clinical researchers.[4] CCT = completion of clinical training.

Walport explained that whereas MMC provided a window for change in the current medical training programme, the UKCRC[5] provided an umbrella under which the many stakeholders have worked together to implement that change. His report maps out a clear and flexible pathway through which junior doctors can pursue a research career in academic medicine. In particular it has developed and established fully integrated, MMC compliant training routes for clinical researchers and educators of the future (Fig 1). For the first time there will be integrated academic foundation programmes for foundation year 1 and 2 trainees that lead into a dedicated academic training programme consisting of academic clinical fellowships and clinical lectureships. Importantly there are well defined exit strategies with the creation of new senior lectureship posts, with a healthy mix of government/charity funded personal fellowships and university/postgraduate deanery-funded fellowships. All the key stakeholders (in particular the NHS, Department of Health (DH) and Higher Education Funding Council for England) have been involved in funding various parts of the initiative and are fully committed to the increase in academic capacity. These developments, in parallel with an increase in capacity building in NHS clinical research infrastructure, should lead to effective and durable changes in the career pathway for clinical academic researchers.

What is on offer?

A key feature of the new Walport initiative is partnership between government, charities and industry. Patrick Vallance gave a broad overview of the many different types of academic fellowships that are currently available. He illustrated how these map onto new developments in the Walport report. He reminded the delegates that clinical academics often need flexibility during their training and that one format does not work for all. This is particularly so for the new breed of graduate entry medical students. Vallance highlighted the role of the UKCRC which brings together the NHS, research funders, industry, regulatory bodies, Royal Colleges, patient groups and academia to a UK-wide environment that facilitates and promotes high quality clinical research for the benefit of patients. The expansion in researcher capacity has been linked to a marked expansion in infrastructure capacity within the NHS through the development of modern well-funded clinical research facilities. Furthermore a UK Clinical Research Network has been established to support clinical research and to facilitate the conduct of trials and other well-designed studies across the UK.[6] As part of the UKCRC, it works towards the development of a world class infrastructure to support clinical research in the UK.

Balancing the need for training with research

Modernising Medical Careers is a key facilitator for other flagship programmes in the DH. It is focused on developing a flexible workforce of doctors and has been an important leverage for change in the training of academic clinicians. Steve Field outlined how research, education and training of academic clinicians are supported by the three pillars of the universities, postgraduate deaneries and the NHS. There has always been an inherent tension between the need for academic clinicians to train in the practical aspects of clinical medicine as well as develop their research portfolios in the 'science' of medicine. Field explained that these tensions have been eased somewhat by a move away from the traditional 'time-based' principles of training towards a 'competency-based' approach for both clinical training and research. At every level there should now be full and transparent integration between the universities, postgraduate deaneries and the NHS. He reminded the delegates that MMC was designed with academics in mind who now have a clear route of entry, training pathway and exit from the training pipeline.

Case histories and surgeries

Two important needs emerged from the discussions. Role models/mentors were required during training and clinical academics must be both entrepreneurs and opinion leaders. Three senior clinical fellows described their personal experiences of navigating a route through the training pathway. A unifying

theme was an open and honest relationship with a mentor in an intellectually rigorous environment. All three stressed the need for clinical academics to have sufficient time to develop clear and relevant questions away from the pressure of routine clinical work. Despite their varied routes they all emphasised the enormous benefits of having research fellowships which allowed them time to widen their horizons and in so doing start to focus on which scientific questions to pursue. Delegates to the conference also had the opportunity to attend surgeries with research staff from the major funding bodies (Medical Research Council, The Wellcome Trust, British Heart Foundation and Cancer Research UK). Each of the funding agencies stressed that competition for research fellowships is fierce. Developing determined resistance and learning from failures, however, were two features that ultimately mark out those who are likely to succeed.

Training fellowships: myths and misconceptions

Bryan Williams addressed the difficult issue of when, where and with whom to consider training in academic medicine. He emphasised that there are no right answers but that some pathways are easier than others. He stressed that in preparing for fellowship applications, the person is more important than the project or the place. Williams reinforced the point made by earlier speakers that the process of training in academic medicine is competitive and success is not guaranteed. He made the point that the fellowship selection process is similar to the way in which venture capitalists select people, projects and ideas in which to invest. The ability to influence a panel of interviewers that you and your project are worth an investment of many thousands of pounds is what is really being judged during the interview. A number of myths were also laid to rest. Clinical research as opposed to biomolecular research *is* funded; surgeons *do* get training fellowships; patient orientated, translational research *is* relevant and important. Williams made the point that the new Walport training scheme would help dispel these widely held but false misconceptions.

What about the medical students?

For many medical students, a career in research or education remains a remote concept. Little information is given to them when recruited to medical school. Some commentators have even suggested that medical school admission committees actively resist applicants with an aptitude for research.[7] The desire to pursue a career in academic medicine is rarely used as an important criteria to select candidates for entry to medical school. The situation is compounded by the seeming reluctance of clinical academics to fully engage in the admissions process. It was therefore refreshing to see that medical students comprised a small but significant number of delegates at the conference. Their interest in academia usually emerges during their undergraduate medical education. An intercalated degree provides an opportunity to explore research and we must ensure that this experience encourages an appetite for medical science as a career. As the intake of graduate entry medical students increases to about 10% of total student numbers, the proportion of students who are curious about and committed to medical research will increase. Clinical academics can be made as well as be born. They are the future of academic medicine, but they need to see that a pathway, albeit an extraordinarily competitive one, is available to them. Otherwise the brightest students, with burgeoning loans to repay, will view a career in academic medicine as an irrelevant and costly option.

Summary

Academic medicine may have been in crisis but it is now starting to flourish again. In the words of Eric Thomas:

> *Clinical academia has a rosy future if you really celebrate and respect it as an activity, if you ensure a supply of graduates committed to research, if you get the relationship right with the key partners, if you get the best facilities for prosecuting research.*[8]

It looks as though many of these 'ifs' will now be fulfilled within the reforming agenda of MMC.

References

1 Savill J. More in expectation than hope: a new attitude to training in clinical academic medicine. *BMJ* 2000;320:630–3.
2 Arthur MJP, Alberti KGMM. Training in academic medicine: a way forward for the new millennium. *J R Coll Physicians Lond* 1999;33:1–7.
3 Modernising Medical Careers. www.mmc.nhs.uk
4 Report of the Academic Careers Sub-committee of Modernising Medical Careers and the UK Clinical Research Collaboration. *Medically- and dentally-qualified academic staff: recommendations for the training of researches and educators of the future*. London: UKCRC and MMC, 2005. www.mmc.nhs.uk/download_files/Medically-and-Dentally-Qualified-academic-staff-recommendations-Report.pdf
5 UK Clinical Research Collaboration. www.ukcrc.org
6 UK Clinical Research Network. www.ukcrn.org.uk/index.html
7 Neilson EG. The role of medical school admissions committees in the decline of physician scientists. *J Clin Invest* 2003;111:765–7.
8 Thomas E. The future of clinical research-an outside-in view. *Clin Med* 2004;4:169–72.